

CLAIMS

1. An image forming apparatus for forming an image
on a recording medium by ejecting drops of recording fluid
5 from a recording head, comprising:

a waste tank having a space for containing waste fluid;
obtaining means for obtaining a correlation value that
has a correlation to a deposited state of the waste fluid in
the space within the waste tank; and

10 judging means for judging whether or not the correlation
value exceeds a reference value.

2. The image forming apparatus as claimed in claim
1, wherein the obtaining means obtains the correlation value
15 from a number of times a recovery process is carried out to
eject from the recording head recording fluid that does not
contribute to image formation.

3. The image forming apparatus as claimed in claim
20 1 or 2, wherein the waste tank includes an absorbing member
for absorbing and holding the waste fluid, and detection means
for detecting a fully absorbed state of the absorbing member.

4. The image forming apparatus as claimed in claim
25 3, wherein a volume ratio of the space and the absorbing

member within the waste tank is in a range of 1:4 to 3:2,

5 5. The image forming apparatus as claimed in any
of claims 1 to 4, wherein the reference value is changed based
on a recovery process frequency at which the recovery process
is carried out.

10 6. The image forming apparatus as claimed in claim
5, wherein the recovery process frequency is obtained based on
a total number of recovery processes carried out during a
total used time of the waste tank.

15 7. The image forming apparatus as claimed in any
of claims 1 to 4, wherein the reference value is constant.

 8. The image forming apparatus as claimed in any
of claims 1 to 7, wherein the correlation value is corrected
depending on an environment condition.

20 9. The image forming apparatus as claimed in any
of claims 1 to 8, wherein a usable state of the image forming
apparatus is limited when the correlation value exceeds the
reference value.

25 10. The image forming apparatus as claimed in any

of claims 1 to 9, wherein the recording fluid includes a water-dispersible coloring agent, a wetting agent and a penetrating agent, and has a viscosity increase rate due to moisture evaporation that is 1.0 or less up to a moisture evaporation rate of 30% with respect to a total weight of the recording fluid and is 50 or greater for moisture evaporation rates of higher than 30% and less than or equal to 45%.

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